

REMARKS

The last Office Action of February 3, 2005 has been carefully considered. Reconsideration of the instant application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-7 are pending in the application. Claims 1, 6 and 7 have been amended. Claims 8 and 9 have been added. Amendments to the specification have been made.

The drawings were objected to for failing to comply with 37 C.F.R. 1.84(p)(5) because the specification does not mention reference number 113 in FIG. 3.

Claims 1-7 are rejected under 35 U.S.C. §101 for including method steps in the apparatus claims.

Claims 1-7 are rejected under 35 U.S.C. §112, second paragraph, for the same reason, namely for including method steps in the apparatus claims.

Claim 1 stands rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. 6,533,972 to Stirn in view of U.S. Pat. No. 5,658,600 to Okada et al.

No art was applied against claims 2-7 which are therefore presumed to be patentable over the art of record. However, applicant wishes to defer amendments to these dependent claims in view of the arguments presented below regarding amended claim 1.

OBJECTIONS TO THE DRAWINGS UNDER 37 C.F.R. 1.84(p)(5)

The specification has been amended to include a reference "113" to the housing. The German-language priority document PCT/EP02/04231, which is part of the instant application, sets forth on page 7, line 13-15, that "parts corresponding with the first embodiment are identified by corresponding reference numerals increased by 100". This reference has now been incorporated in the instant specification in paragraph [0026] and is also evident from a comparison between FIGS. 2 and 3. Paragraph [0026] has also been amended to make a reference to reference numeral "113".

Withdrawal of the objection to the drawing is therefore respectfully requested.

REJECTIONS UNDER 35 U.S.C. §101 and §112, SECOND PARAGRAPH

The rejections have been overcome by amendments to claims 1, 6 and 7. In addition, regarding the incorporation of functional language in apparatus claims, the examiner is directed to MPEP §2114 which states that "While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. [*In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997)]. Applicant therefore requests that the

Examiner takes into account the structural differences between the claimed invention and the prior art, regardless of the functional language used

Withdrawal of the rejections under 35 U.S.C. §101 and §112, second paragraph, is therefore requested.

REJECTION UNDER 35 U.S.C. §103(a)

Claim 1, as amended herein, recites an actuating drive for a plasticizing unit of an injection molding machine, with a spindle drive having a stationary housing section and an electric motor with a drive element, wherein the spindle drive moves between a first end position corresponding to a feed phase of the spindle drive and a second end position corresponding to a return stroke phase of the spindle drive. An energy storage device is coupled with the spindle drive for force transmission therebetween. The energy storage device receives energy from the spindle drive in the return stroke phase and transfers energy to the spindle drive in the feed phase. The transferred energy boosts power of the electric motor. The spindle drive further includes a control mechanism which is arranged between the drive element and the housing section and engages with the drive element to actively control the force transmitted between the energy storage device and the spindle drive depending on a stroke position of the spindle drive.

The Examiner asserts that Stirn discloses a spindle drive, with the spindle being an ejector arm (50) and motor (40) being a spindle drive element. Stirn

drives the ejector arm (50) via a transmission (44), with a control system (80) producing signals for controlling the operation of motor (40), such as the electrical current supplied to the motor. (col. 5, lines 16-26). However, there is no suggestion in the Stirn reference that the ejector arm could be a spindle drive.

As noted in the Office Action, Stirn fails to teach an energy storage device or the control mechanism arranged between the housing section and the drive element.

Okada shows a "spindle drive (19)" for force transmission. However, as stated clearly in col. 4, lines 35-47, in the Okada reference, the cited element 19 is a hydraulic cylinder type vibration generator which operated by way of a proportional flow valve and a servo valve. Okada does not disclose or suggest using a spindle drive. Okada also does not disclose the particular arrangement of the control mechanism which according to the Office Action is missing from the Stirn reference.

Moreover, the springs (30, 34) disclosed by Okada are provided to resiliently connect the vibration shaft (20) and the cylindrical receiving member (27) via spring (34) and the cylinder (31) with the rod member (28). However, the two springs do not store energy by receiving energy from the vibration shaft (20) during the return stroke and transferring energy to the vibration shaft (20) during the feed stroke, as recited in amended claim 1.

Neither Stirn nor Okada provide a mechanism that transfers energy to boost the power of the electric motor.

For the reasons set forth above, it is Applicant's contention that Stirn and

Okada, taken alone or in combination, do not disclose or suggest the elements and their cooperation as recited in claim 1.

As for the rejection of the retained dependent claims, claims 2-7 are presumed to be allowable since no art was cited against these claims. The newly added dependent claims 8 and 9 depend on claim 1, share its presumably allowable features, and therefore it is respectfully submitted that these claims should also be allowed.

Withdrawal of the rejection under 35 U.S.C. §103(a) and allowance of claims 1-9 are thus respectfully requested.

CLARIFICATION AMENDMENT

Applicant has amended paragraph [0012] of the instant specification for clarification. Support therefore can be found, for example, in paragraph [0026], lines 3-7, or Fig. 3. Page 10 has obviously been included in the instant specification in error and has now been deleted.

In addition, applicant has added claims 8 and 9, the subject matter of which corresponds to claims 8 and 9 of PCT/EP02/04231 of which the present application is a continuation and which has been incorporated herein by reference. Support for the subject matter of claims 8 and 9 can also be found, e.g., in paragraph [0012] of the instant specification.

CITED REFERENCES

Applicant has also carefully scrutinized the further cited prior art and finds it without any relevance to the newly submitted claims. It is thus felt that no specific discussion thereof is necessary.

CONCLUSION

In view of the above presented remarks and amendments, it is respectfully submitted that all claims on file should be considered patentably differentiated over the art and should be allowed.

Reconsideration and allowance of the present application are respectfully requested.

Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawing, then it is respectfully requested that such changes be made by Examiner's Amendment, if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner feels that it might be helpful in advancing this case by calling the undersigned, applicant would greatly appreciate such a telephone interview.

Respectfully submitted,

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AMENDMENTS TO THE DRAWINGS WITHOUT MARKINGS

IN THE DRAWING:

Fig. 1 has been amended.